

PCG-GRV670/GRV680

SERVICE MANUAL

Ver 1-2003B

Revision History

For American Area
US Model
Canadian Model



Lineup : PCG-GRV680
PCG-GRV670

Illust : PCG-GRV680



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- Design and specifications are subject to change without notice.

NOTEBOOK COMPUTER

SONY®

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Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.

Dispose of used battery promptly.

Keep away from children.

CAUTION: Changing the back up battery.

- Overcharging, short circuiting, reverse charging, multilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.



Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the Δ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270°C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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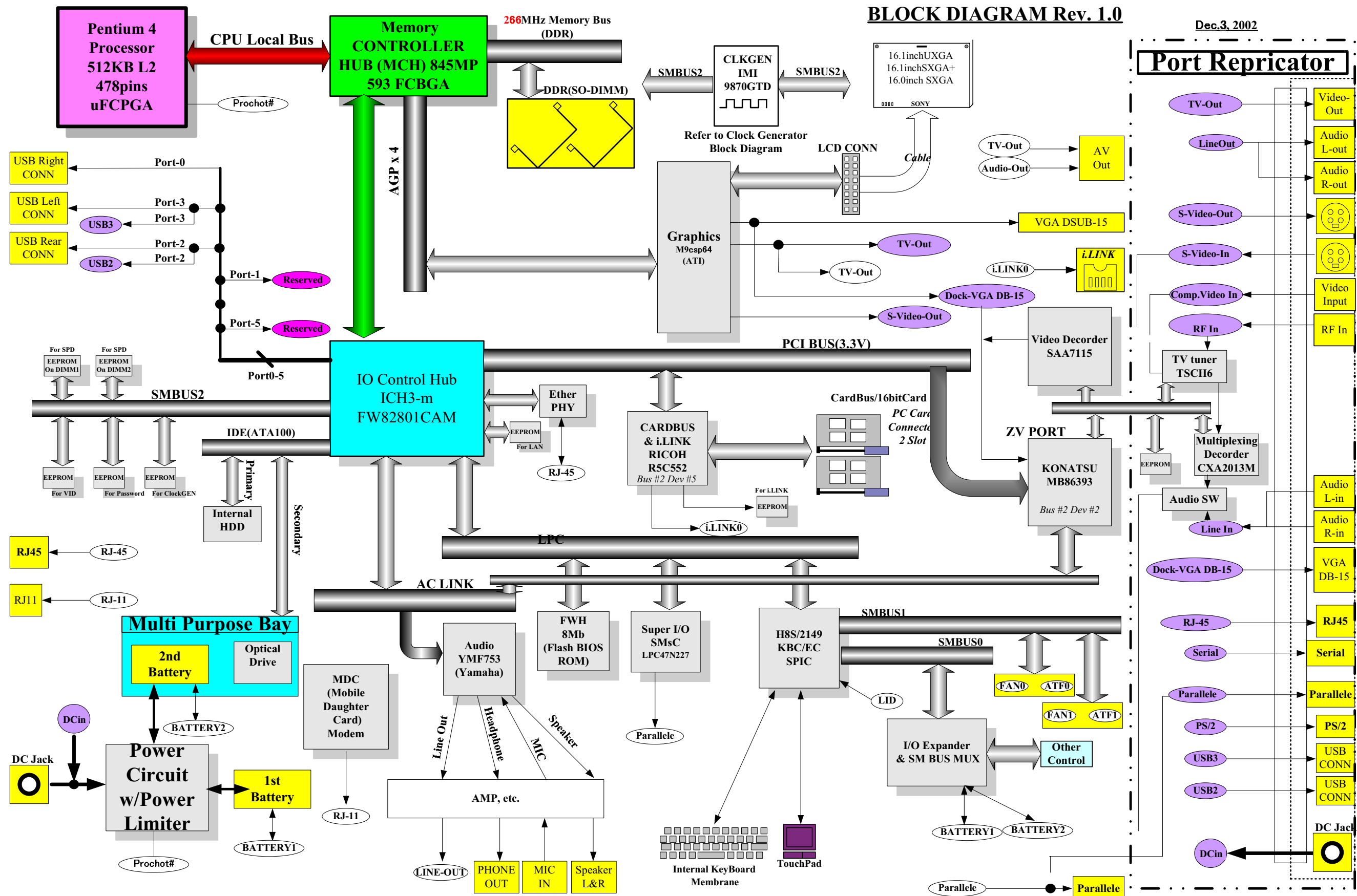
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History of the changes is shown as the
“Revision History” at the end of this data.

CHAPTER 1. BLOCK DIAGRAM

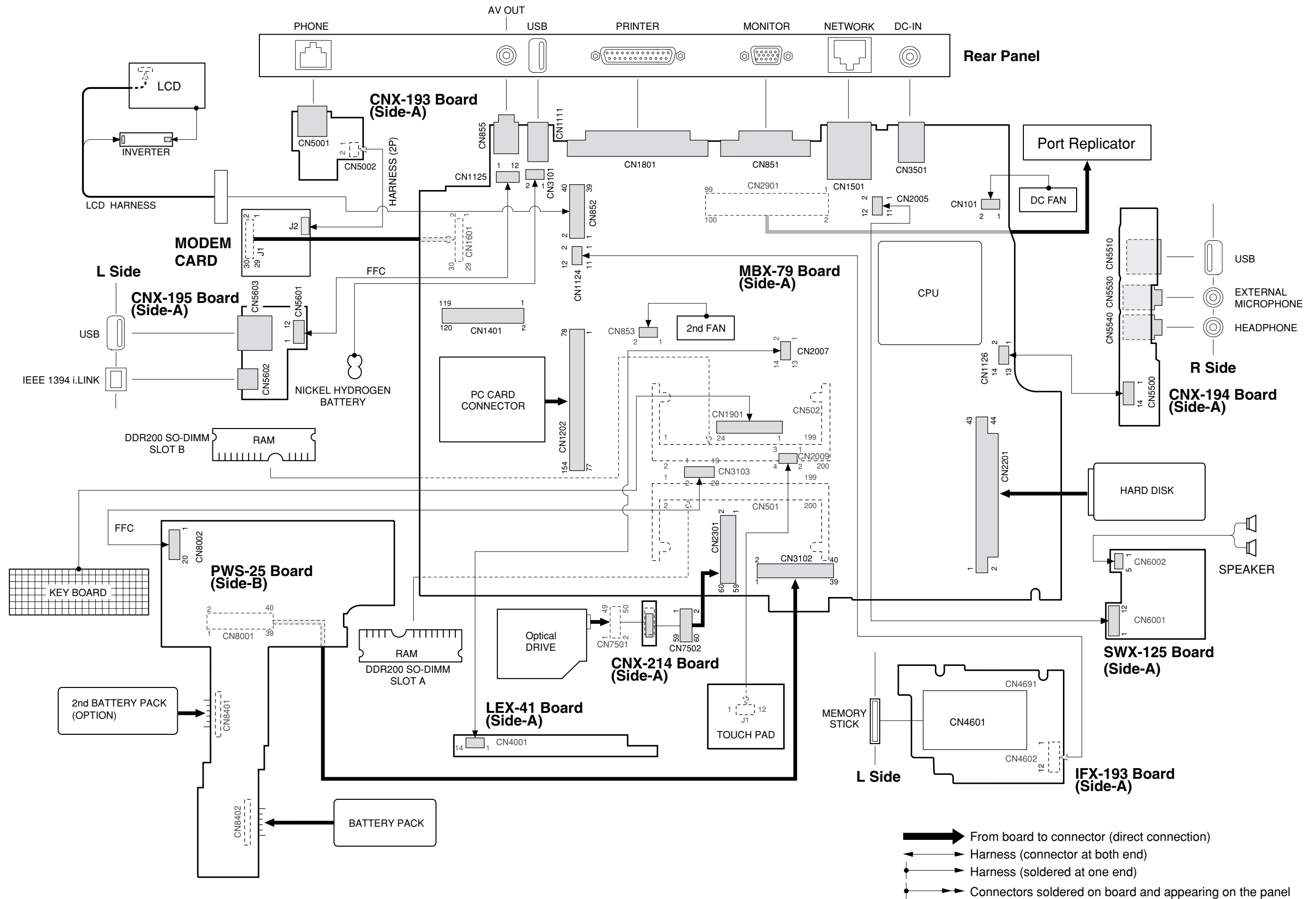
BLOCK DIAGRAM Rev. 1.0

Dec.3, 2002



CHAPTER 2.

FRAME HARNESS DIAGRAM



CHAPTER 3.

EXPLODED VIEWS AND PARTS LIST

- NOTE:
- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 - The mechanical parts with no reference number in the exploded views are not supplied.
 - When two or more parts are shown in parallel, use the part described first as the main part.
 - The parts marked “ \$ ” are the High Value Modules.
 - The parts marked “ # ” are the parts on which barcode label is attached.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

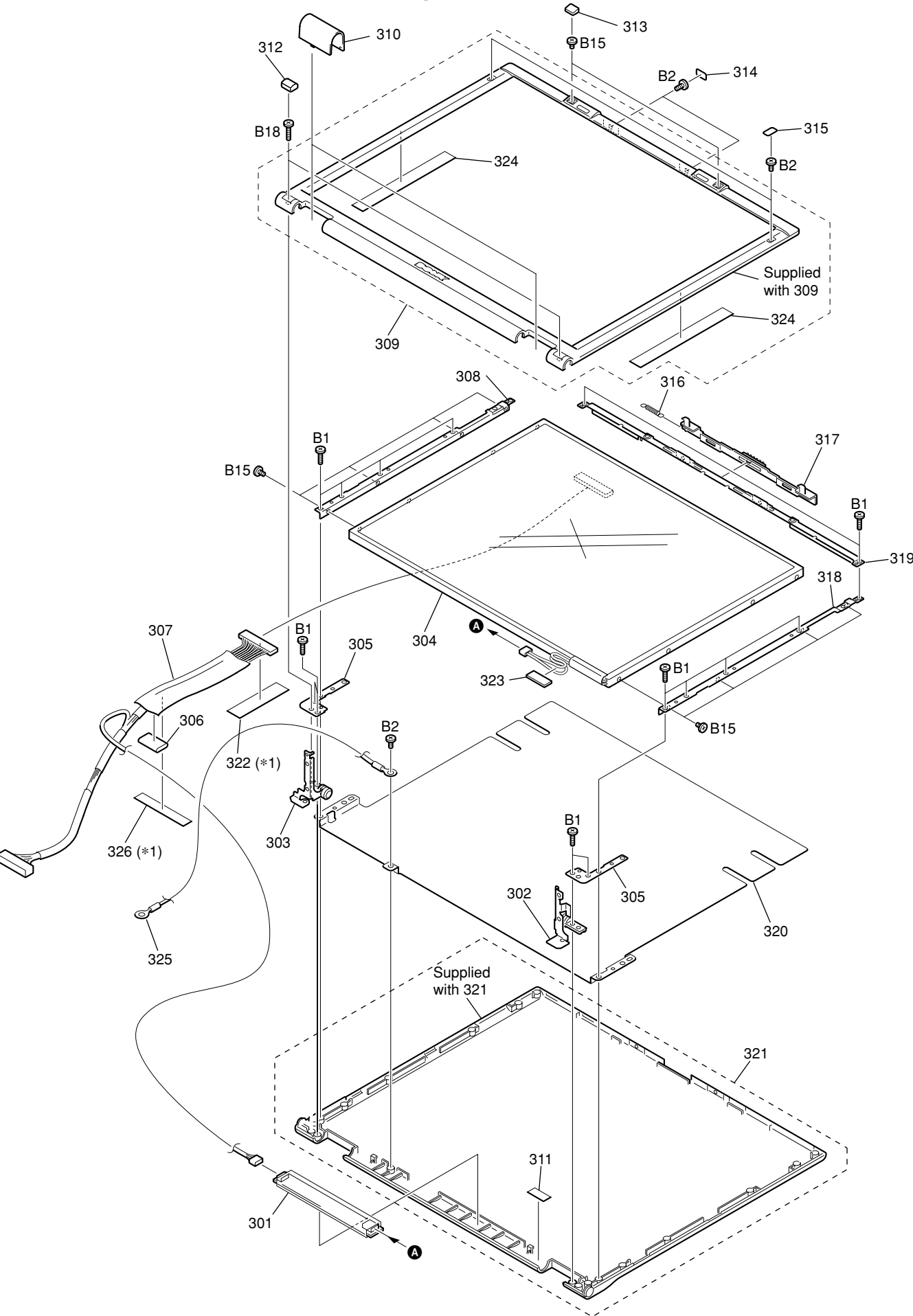
- 【使用上の注意】
- * 印の部品は常備在庫しておりません。
 - 図面番号のない部品は供給しません。
 - 併記部品の場合、上部記載部品をメイン部品として使用してください。
 - 部品名称の前に \$ 印のついた部品は、High Value Module です。
 - 商品名称の前に # 印のついた部品は、バーコードラベル貼付部品です。

Δ 印の部品、または Δ 印付きの点線で囲まれた部品は、安全性を維持するために重要な部品です。従って交換時は、必ず指定の部品を使用してください。

3-1. Main Section

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description	Ref.No.	Part No.	Description	Ref.No.	Part No.	Description		
1	4-660-888-01	ESCUSHION TOUCHPAD	60	X-4624-530-4	ASSY DOOR MODEM	142	4-669-734-02	SHEET BRACKET BATTERY	B1	4-641-726-41	SCREW (M2), SPECIAL HEAD		
2	1-796-166-21	PAD, TOUCH	* 62	4-660-448-01	SUB-FRAME BAY	147	4-672-748-01	(GRV680)...SCREW COVER (+-RW)	B2	4-641-726-12	SCREW (M2), SPECIAL HEAD		
3	X-4625-535-2	ASSY HOUSING PALM NOJOG	63	X-4624-538-2	ASSY DOOR L	148	4-673-489-01	(GRV680)...SHEET A DVD+-RW	B3	7-621-772-70	SCREW +B 2X14		
4	4-660-904-01	CUSHION PALMREST	64	4-660-822-03	BRACKET DOOR L	149		FILAMENT TAPE (W12X30) (*1)	B4	4-654-387-01	SCREW (MBX)		
5	4-660-906-13	SPRING BLIND	65	4-660-452-02	HINGE BASE LEFT	150	4-669-895-01	CUSHION KEYBOARD H	B6	4-656-703-01	SCREW M2		
6	4-668-482-01	SPRING (BLIND) (R)	66	4-660-872-01	INSULATOR HEATSINK BOTTOM	151	4-669-790-01	GASKET 2ND FAN	B7	4-635-301-01	SCREW M3X4		
7	4-660-900-02	PLATE ARM LEFT	67	A-8067-663-A	\$ COMPLETE PWB CNX-195	152	4-670-415-01	SHEET THARMAL FIN (H)	B8	4-639-112-01	SCREW M2X4		
* 8	4-660-901-01	PLATE ARM RIGHT	68	4-660-544-21	CAP MODEM	153	4-669-784-01	SPACER (BOTTOM)	B9	4-635-966-01	SCREW (HEX)		
9	1-761-518-11	PWB, FLEXIBLE PRINT	69	4-660-864-21	DOOR IO	154	4-667-524-01	COPPER TAPE ETHERNET	B10	4-642-852-01	+B M2		
10	4-668-317-01	THERMAL SHEET FET (H)	70	4-660-874-11	LABEL IO	155	4-671-692-11	(GRV680)...ID LABEL	B11	4-654-386-01	SPACER (PWS)		
* 11	4-660-903-01	BRACKET TOUCHPAD	71	1-824-825-12	CABLE, FLEXIBLE FLAT	155	4-673-206-11	(GRV670)...ID LABEL	B12	7-622-205-05	NUT M2 TYPE2		
12	X-4625-602-2	(GRV680)... ASSY BEZEL DVD+-RW (CNC)	72	4-660-887-06	DISPLAY BASE	156	4-672-939-02	SHIELD TAPE (BOTTOM)	B13	4-651-989-01	SPACER (MBX)		
12	X-4624-620-4	(GRV670)... ASSY BEZEL COMBO (CNC)	73	1-477-871-21	\$ # KEYBOARD UNIT (US)	157	4-673-642-01	SHEET COPPER (DOOR R)	B14	4-661-248-01	SPACER 4MM		
13	8-457-509-00	\$ # (GRV680)...DVD DRIVE, DW-U50A-VN	74	X-4625-534-2	ASSY MOLD HOOD MS	158	4-673-644-01	BUSTERLAID B	B16	4-654-811-01	SCREW M3		
13	8-458-896-71	\$ # (GRV670)...RW DRIVE CRX820E-V2	75	1-825-252-11	SPEAKER (WITH 2.8CM BOX)	*1 Use the FILAMENT TAPE.					B17	4-657-192-01	SCREW, TAPPING, SPECIAL
14	4-661-451-01	ADHESIVE TAPE TOUCHPAD	76	1-823-719-12	CABLE, FLEXIBLE FLAT						B19	4-641-726-21	SCREW (M2), SPECIAL HEAD
16	4-654-837-01	SHEET BAY BOARD	77	A-8067-957-A	\$ COMPLETE PWB IFX-193AH2						B20	4-669-867-01	SCREW (M2), SPECIAL HEAD
17	A-8067-922-A	\$ COMPLETE PWB CNX-214	78	1-824-826-11	CABLE, FLEXIBLE FLAT								
18	4-660-860-03	CASE BAY	79	A-8067-667-A	\$ COMPLETE PWB SWX-125								
19	X-4625-374-2	ASSY PLATE KEYBOARD (H)	80	A-8113-861-A	\$ # (GRV680)... ASSY HDD 60GB(T-A) (S)								
20	X-4624-528-2	ASSY BRACKET BAY	80	A-8059-139-A	\$ # (GRV670)... HDD (40GB,IC25N040ATCS04-0)								
21	1-823-721-12	CABLE, FLEXIBLE FLAT	* 81	4-653-799-02	BRACKET HDD								
22	4-661-289-01	INSULATOR PWS	82	X-4624-536-2	ASSY DOOR HDD								
23	A-8067-786-A	\$ COMPLETE PWB PWS-25 (AH2)	83	4-653-801-02	SHEET HDD								
24	1-815-594-31	CONNECTOR, PC CARD(EJECT,RIGHT)	85	X-4624-539-3	ASSY DOOR R								
25	4-660-831-01	INSULATOR PCMCIA	* 87	4-660-449-02	SUB-FRAME BOTTOM LEFT								
26	1-761-606-12	CARD, MODEM	88	6-600-116-01	IC M470L3224DT0-CB0 (DDR266 SO-DIMM 256MB)								
27	1-761-519-11	PWB, FLEXIBLE PRINT	89	4-662-961-01	SHEET BLIND L								
29	1-763-982-11	2ND FAN (H)	90	4-673-645-01	SHEET PORT AH								
30	4-666-751-01	THERMAL SHEET ATI	91	4-662-926-02	INSULATOR HDD PWB								
31	1-756-281-11	BATTERY, NICKEL HYDROGEN	92	4-660-868-01	FOOT FRONT								
32	4-642-711-01	SHEET (BATTERY), ADHESIVE	93	X-4625-601-1	ASSY HOUSING BOTTOM H (P)								
33	4-668-785-01	THERMAL SHEET CPU	94	4-660-866-02	DOOR PORT								
34	6-703-746-01	IC RK80532PC064512SL6GU (P4 2.6GHz)	95	4-662-798-01	PLATE GND PWS								
35	1-960-827-61	HARNESS (2 PIN)	96	A-8113-978-A	\$ # COMPLETE MBX-79 (AH2-COM) (S)								
36	A-8067-796-A	\$ COMPLETE PWB CNX-193 AH2	97	4-654-380-21	CAP BAY								
37	4-660-876-01	PLATE DC JACK	99	4-664-547-01	SHEET FPC								
38	4-668-067-01	FIN (H), THERMAL	110	1-793-365-21	CONNECTOR, USB (A)								
39	1-763-929-12	CPU FAN (H)	111	1-793-162-11	JACK, SMALL TYPE								
41	4-660-445-03	BRACKET BATTERY	112	1-695-514-21	JACK								
42	X-4625-369-1	ASSY SUBFRAME BOTTOM R 2	113	1-779-745-21	JACK, DC								
43	A-8067-953-A	\$ COMPLETE PWB CNX-194 (AH2)	114	1-815-221-22	CONNECTOR, USB (A)								
44	4-660-823-02	BRACKET DOOR R	115	1-694-761-11	JACK, SMALL TYPE								
45	4-661-272-02	INSULATOR BOARD AUDIO	116	1-794-548-21	CONNECTOR, USB(A)								
* 46	4-660-905-01	HOLDER HDD	119	X-4625-743-1	ASSY DOOR DIMM (H)								
* 47	4-660-451-01	PLATE GND HDD	121	4-663-828-02	SPACER PC CARD								
48	4-663-115-02	FOOT REAR FIXED	122	4-669-683-02	SHEET (PLATE) (KEYBOARD)								
49	4-660-861-02	DOOR BATTERY	127	4-663-227-01	CUSHION IO								
50	4-660-443-01	SPRING DOOR BATTERY	130	4-655-927-03	(GRV680)...SPRING (DVD-ROM)								
* 52	4-660-447-01	SUB-FRAME BATTERY	132	4-667-896-02	ICONSHEET (HOOD)								
53	A-8067-666-A	\$ COMPLETE PWB LEX-41	133	4-664-362-01	CUSHION IO LEFT								
* 54	X-4624-529-2	ASSY BRACKET IO	135	4-664-482-01	SPACER HINGE L								
56	1-824-824-11	CABLE, FLEXIBLE FLAT	136		FILAMENT TAPE (W10X25) (*1)								
58	4-653-745-01	SPRING BAY	138	4-672-963-01	INSULATOR BAY AH								
59	4-659-630-02	LATCH BAY	141	4-665-467-01	SPACER BATTERY (K)								

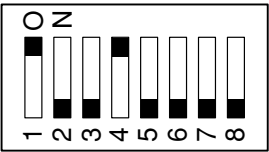
3-2. LCD Section – Made by SH –



Ref.No.	Part No.	Description
301	1-476-316-31	INVERTER UNIT
302	X-4625-379-2	ASSY HINGE R (16SH)
303	X-4625-378-1	ASSY HINGE L (16SH)
304	A-8112-385-A	ASSY LCD SXGA 16 (S)
* 305	4-667-463-01	BRACKET (LCD) (HINGE)
306	4-668-890-01	GASKET LCD (SH16)
307	1-961-573-32	LCD, HARNESS
* 308	4-667-461-01	BRACKET (LCD) (L)
309	X-4625-287-2	ASSY HOUSING BEZEL (16SH)
310	4-660-897-02	COVER HINGE
311	4-669-735-01	ADHESIVE TAPE (16SH)
312	4-667-753-02	SCREW (COVER) (U)
313	4-667-756-02	SCREW (COVER) (LATCH)
314	4-668-240-01	SCREW (COVER) (TOP)
315	4-667-752-01	SCREW (COVER) (T)
316	4-669-806-11	LATCH SPRING (16SH)
317	4-667-466-01	LATCH (LEVER) (DISPLAY)
* 318	4-667-462-01	BRACKET (LCD) (R)
319	4-667-464-01	BRACKET (LATCH) (DISPLAY)
320	4-668-165-02	SHIELD LCD SH16
321	X-4625-286-2	ASSY HOUSING DISPLAY (16SH)
322		FILAMENT TAPE (W19X50) (*1)
323	4-670-288-01	CUSHION LCD CABLE (16SH)
324	4-654-966-01	SHEET (BEZEL), ADHESIVE
325	1-827-016-11	GND CABLE
B1	4-641-726-41	SCREW (M2), SPECIAL HEAD
B2	4-641-726-12	SCREW (M2), SPECIAL HEAD
B15	4-641-726-81	SCREW (M2), SPECIAL HEAD
B18	4-645-214-31	GRIP, M2

*1 Use the FILAMENT TAPE.

NOTE :
Set the DIP switch on the MBX-79 board (Main board) to match with the LCD that is used in this computer.



The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

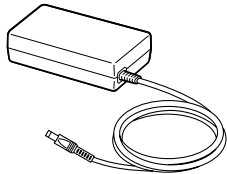
No.	1	2	3	4	5	6	7	8
ON/OFF	0	1	1	0	1	1	1	1

0 : ON 1: OFF

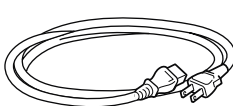
Ref.No.	Part No.	Description
		ACCESSORIES

▲ 801	1-477-206-41	ADAPTOR, AC
802	A-8112-428-A	BP2NX SKD (U) ASSY (S)
▲ 803	1-757-562-21	CORD, POWER
804	4-660-884-02	WEIGHT SAVER
		(Refer to page 3-5.)
	4-671-684-11	QUICK START

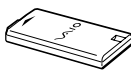
801
AC Adaptor (1)



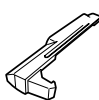
803
Power Cord (1)



802
Battery Pack (1)



804
Weight Saver (1)



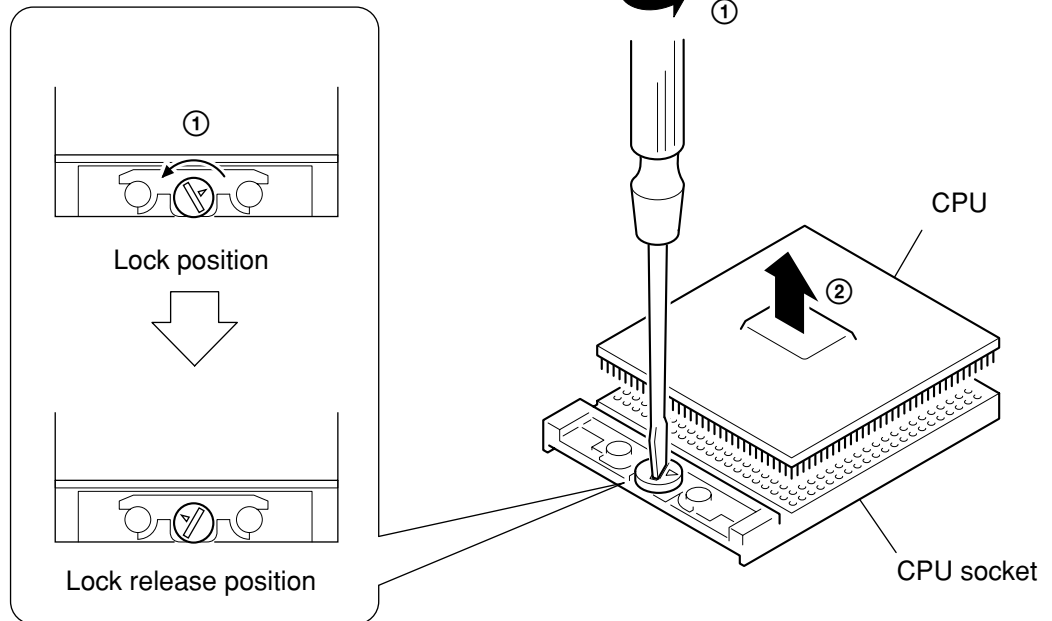
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4-1. Replacing the CPU

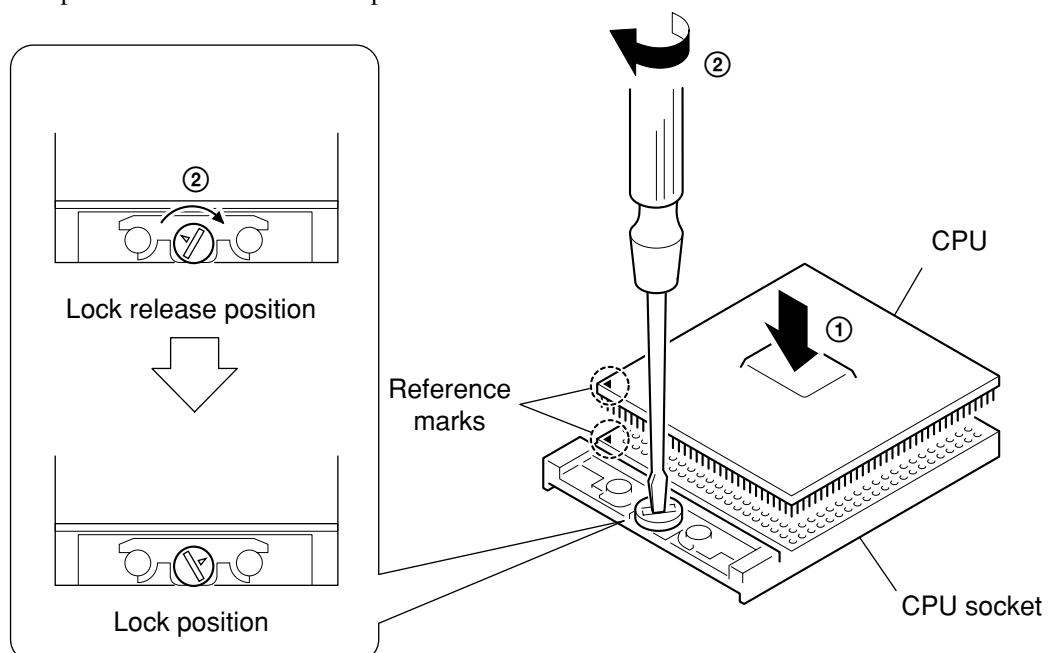
1. Removing the CPU

- ① Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock release position.
- ② Pull the CPU gently upward to lift it out of the CPU socket.



2. Installing the CPU

- ① Align the triangle reference mark of the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.
- ② Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock position.




NOTE:

Rotate a flat-blade screwdriver to the lock position securely. If not, the operation of the CPU may become unstable.

List of PCG-GRV Series (As of February, 2003)

Model Name	Service Manual Part No.
PCG-GRV550	9-876-031-01
PCG-GRV680 PCG-GRV670	9-876-055-01

 : Additional Models

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Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2003.02.05	First Edition	
< Remarks >				